ABSTRACT

A system for estimating a posture angular velocity of a predetermined part, such as a body 3, of a robot by using motion state amounts of the robot, including a desired motion of a desired gait, a detected value of a joint displacement, and a desired value of a joint displacement of a robot 1 having a gyro sensor (angular velocity sensor) mounted on the body 3 or the like in a case where no slippage is taking place between the robot and a floor, e.g., a state wherein the robot is not in a motion. A drift correction value of the angular velocity sensor is determined on the basis of a difference between the estimated value of the posture angular velocity and a detected posture angular velocity value by the angular velocity sensor, and the detected posture angular velocity value corrected by the drift correction value is integrated to determine an estimated value of the posture angle of the predetermined part.